

SYSTEM AND METHOD FOR MAINTAINING TIMING OF SYNCHRONIZATION  
MESSAGES OVER A REVERSE LINK OF A CDMA WIRELESS  
COMMUNICATION SYSTEM

ABSTRACT OF THE DISCLOSURE

5           A service option overlay for a CDMA wireless communication in which  
multiple allocatable subchannels are defined on a reverse link by assigning different  
code phases of a given long pseudonoise (PN) code to each subchannel. The  
instantaneous bandwidth needs of each on-line subscriber unit are then met by  
dynamically allocating none, one, or multiple subchannels on an as needed basis for  
10 each network layer connection. The system efficiently provides a relatively large  
number of virtual physical connections between the subscriber units and the base  
stations on the reverse link for extended idle periods such as when computers connected  
to the subscriber units are powered on, but not presently actively sending or receiving  
data. These maintenance subchannels permit the base station and the subscriber units to  
15 remain in phase, time and power synchronism while maintaining optimal timing control  
over synchronization messages. This in turn allows fast acquisition of additional  
reverse link capacity as needed by allocating additional orthogonal codes within the  
same code phase and by varying the spreading factor of the codes, as well as by adding  
additional code phases.